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# Quality factor investing – a sound and time-tested strategy?

**"Investing in profitable companies has been a sound and time-tested strategy"** is the conclusion of a recent publication entitled "Fama and French: The Five-Factor Model Revisited" by Horstmeyer, Liu and Wilkins (HLW) and published on the CFA Institute -blog. Fama and French augmented their original "Three factor model" from 1993 in a paper entitled "A five factor asset pricing model" in 2015 by adding profitability (robust minus weak/ RMW) and investment (conservative minus aggressive / CMA) to their original factor set (market, size, value). According to HLW´s article, **especially profitability** or "Robust minus Weak", which is a component of more or less all factor families, **seems to be "the single factor that has consistently delivered excess returns".**

Quality as a factor is quite different to other well-known factors like Value, Size or Momentum as there is **no clear-cut definition** and - the **economic rationale behind this factor is subject to intense discussions**. According to several papers, one of them a 2019 FAJ paper by Hsu, Kalesnik and Kose, entitled "What is Quality ?", profitability and investment are two dimensions within a broader group of metrics and characteristics, which aim to determine Quality as a factor. The authors evaluated a broader range of indexes as well as investment bank offerings and grouped 25 metrics into **seven buckets: profitability, earnings stability, capital structure, growth, accounting quality, payout/dilution and investment.** In a next step, they tested the metrics across US, Europe, Japan, Asia ex Japan and Developed Markets overall (DM) with respect to return difference, multifactor alpha and Sharpe Ratio. Main results:

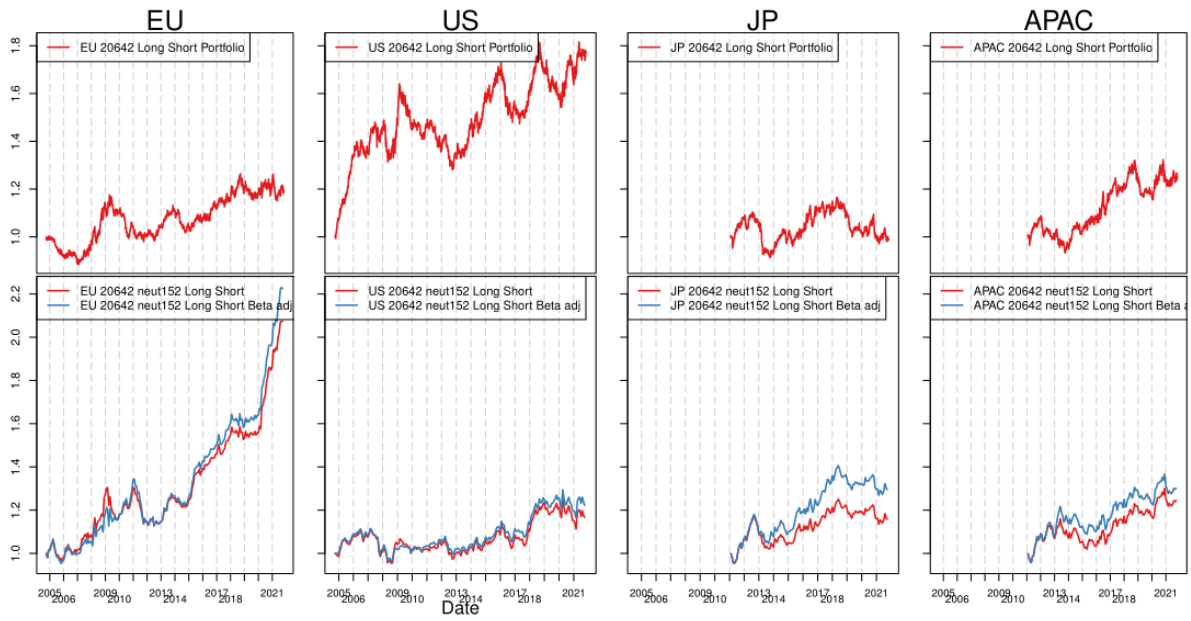
- Profitability
  - statistically significant in US, Europe and DM but not in Japan and AexJap
- Earnings stability, capital structure, Growth in profitability
  - statistically insignificant everywhere
- Accounting quality
  - statistically significant in US and DM, but not in AexJap
- Payout/dilution
  - significant in all regions except Japan
- Investment
  - significant in all regions except Japan by most measures

The problem with many evaluations in academic finance is, that **there can be huge differences between the academic approach and practical outcomes in markets** once a factor or metric is tested taking turnover, transaction costs or other constraints into consideration or- as Yogi

Berra put it: “In theory there is no difference between theory and practice-in practice there is.”

As a result, a factor test which satisfies all statistical hurdles of academic finance might be worthless in markets or just the opposite – **a metric with a sound economic rationale doesn´t meet the academic requirements for a valid factor but might turn out to be a valid investment factor once a couple of constraints** (sector neutrality, systematic risk constraints with respect to betas beyond equity market and other factor risks) are implemented. Moreover, **there can be significant differences between a Long/Short setup or a setup, which aims to deliver excess returns vs. a market cap-based reference index**.

The graph below shows an example with performance spread of decile portfolios in red and adjusted for betas in blue in the lower boxes and investable Long/Short factor portfolios in the upper boxes across regions.




Comparing our own research results – **which are taking constraints into consideration and can be described as “residual factors”**- with the findings of the researchers mentioned above, **profitability** in terms of ROE, ROIC, ROA or GPA (Gross Profit to Total Assets as in Novy Marx, 2010) **is the only group within Quality, where all metrics deliver investment value across all regions (US, Europe, Japan, Asia ex Japan) in a Long/Short setup**. All other metrics within different groups like capital structure, investment, leverage etc. display material differences across regions and testing setups.

As a result – **a central requirement of many researchers, that a factor or metric is only valid, if it “works” everywhere, poses a challenge**, because it requires, that basic economic environments are quite homogenous. But it is well-known among quantitative finance professionals, that the explanatory power of metrics or characteristics is quite different across sectors

and as the sector decomposition of major regional- and country indices varies considerably, it should be expected, that the explanatory power varies across markets as well. Moreover, this is one of the reasons, why investors diversify across regions and countries.

These results and the fact, that Quality lacks a common definition, are the motivation for researchers and investors alike to use multifactor solutions when creating Quality factors. Altman´s Z-Score (Financial ratios, discriminant analysis and the prediction of corporate bankruptcy; 1968), Piotroski´s F-Score (Value Investing: The Use of Historical Financial Statement Information to Separate Winners from Losers; 2002 and Mohanram´s G-Score (Separating Winners from Losers Among Low Book-to-Market Stocks Using Financial Statement Analysis; 2003) are early examples.

The first part of the title from Piotroski´s paper:" **Value investing**…" and Novy Marx´s paper from 2010 "The Other Side of Value: **Good Growth** and the Gross Profitability Premium" show the whole bandwidth of investing in Quality stocks. Even more interesting, one of the findings of Fama and French in 2015 was, that "*with the addition of profitability and investment factors, the value factor of the FF three-factor model becomes redundant for describing average returns in the sample we examine."*

This leads us to the **question of the economic rationale behind Quality investing**. Even Fama/French grappled with a reasonable economic explanation. We typically use three criteria to evaluate the question, if a factor or metric qualifies for a systematic risk premium (or a beta factor):

- fundamental or risk-based explanation
- behavioural foundation or
- institutional background

**A risk-based explanation can be rejected** as more or less all academic papers found **quality stocks to be associated with lower than higher risk**. A **behavioural explanation is the most likely** from our point of view and in line with the findings of Bouchaud et all in their paper entitled "The Excess Returns of Quality Stocks: A Behavioural Anomaly" (2016): *"The returns from investing in quality firms are abnormally high on a risk-adjusted basis, and are not prone to crashes. We provide novel evidence in favour of the behavioural view: In their forecasts of future prices, and while being overall overoptimistic,* ***analysts systematically underestimate the future return of high-quality firms, compared to low quality firms****."*

**Conclusion:**

Quality investing seems to be like a multifactor on its own as it includes companies with reasonable growth and profitability, which are undervalued (fundamentals already not reflected in prices), might be prone to momentum (market corrects underreaction) and exhibit low risk.

**Factor performance**

Defensive factors, namely Quality, Carry and Low Risk, outperformed during the 4th quarter of 2021 on both sides of the Atlantic, while Value and Size had to take a hard hit. Both factors underperformed by more than 4% in Europe and more than 3% in the US. Both factors even underperformed on a YoY – basis, which is quite interesting, as one would have expected, that in a year where analyst´s profit expectations as well as realized earnings climbed to all-time highs in many markets around the world.

# Alpha Centauri Indexing - Data as of 30.12.2021

Description:

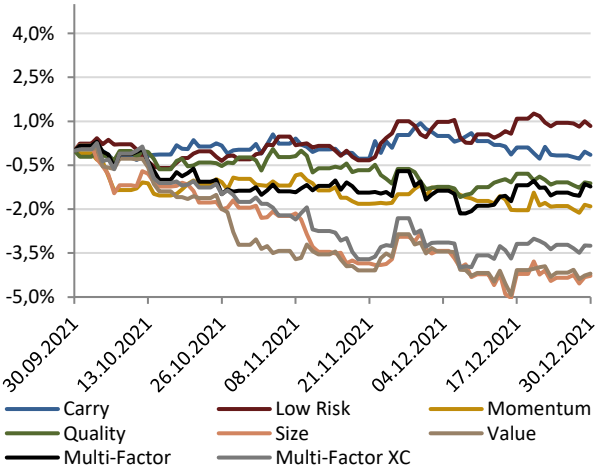
The iSTOXX Europe Single Factor index family developed by STOXX in collaboration with Alpha Centauri offers investors a unique and very innovative way to target and capture premia.
It consists of six single factors that aim to capture well-known risk premia and one multi-factor that aims at simultaneously capturing premia from the aggregate of all single factors rather than from just one source of risk alone.
All indices are constructed to maximize the exposure to their particular factor and minimize unwanted risks. While constructing the final indices the FIS APT risk model is used to measure and restrict risk.

For more information go to **www.alpha-centauri.com** or **www.stoxx.com**

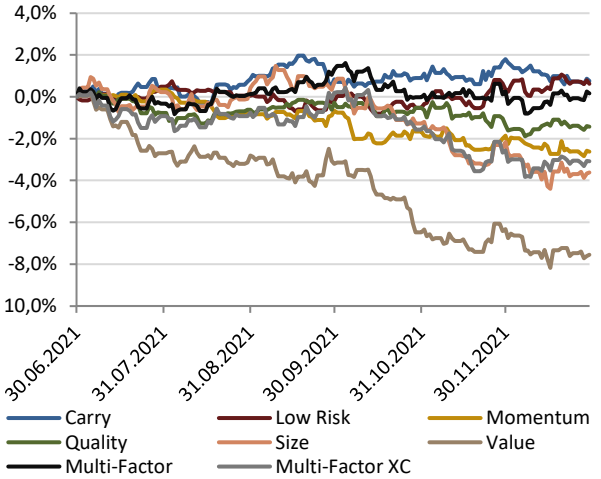
## Performance and Volatility Breakdown

| Name | Ticker | Return 3 Months | Return 6 Months | Return 12 Months | Return Live (1.4.) | Vola pa | Vola pa Live (1.4.) |
|---|---|---|---|---|---|---|---|
| **Carry** | ISECFER Index | 7,6% | 9,4% | 23,6% | 84,1% | 14,0% | 13,6% |
| **Low Risk** | ISERRER Index | 8,6% | 9,3% | 25,2% | 73,3% | 13,2% | 12,9% |
| **Momentum** | ISEMFER Index | 5,9% | 6,1% | 20,6% | 66,2% | 13,8% | 13,4% |
| **Quality** | ISEQFER Index | 6,6% | 7,2% | 25,7% | 68,4% | 13,7% | 13,3% |
| **Size** | ISEZFER Index | 3,5% | 5,1% | 21,5% | 63,7% | 13,6% | 13,2% |
| **Value** | ISEVFER Index | 3,6% | 1,1% | 19,0% | 27,2% | 14,9% | 14,5% |
| **Multi-Factor** | ISEXFER Index | 6,5% | 8,8% | 25,7% | 56,1% | 13,1% | 12,8% |
| **Multi-Factor XC** | ISEXFCR Index | 4,5% | 5,6% | 20,8% | 55,1% | 13,3% | 12,9% |
| **Benchmark** | SXXR Index | 7,8% | 8,7% | 24,8% | 70,3% | 14,1% | 13,7% |

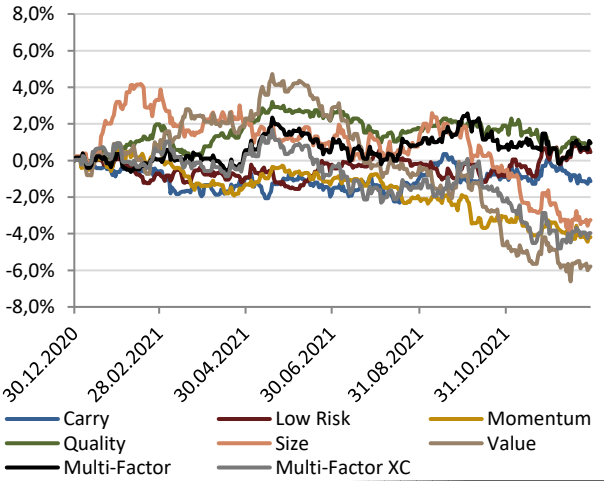
## Excess Return 3 Months



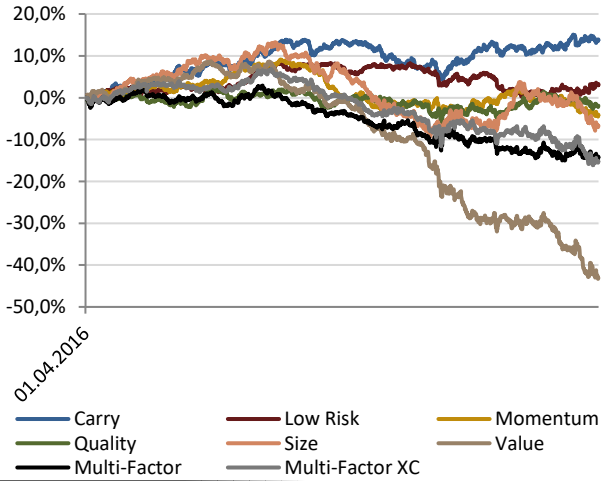

## Excess Return 6 Months




## Excess Return 12 Months




## Excess Return since going Live (1.4.2016)



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